

REMARKS

Claims 1-15 are pending in this application. Claims 1, 3-6, and 10-14 have been amended to define still more clearly what Applicant regards as his invention. Claim 15 has been added to assure Applicant of a full measure of protection of the scope to which he deems himself entitled. Claims 1, 13, and 14 are independent.

Claims 1, 2, 7, 10, 11, 13, and 14 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 6,301,303 to Chung et al. Claims 3 and 4 were rejected under 35 U.S.C. § 103(a) as being obvious from Chung et al. in view of U.S. Patent 5,774,548 to Bando et al.; Claim 5, as being obvious from Chung et al. and Bando et al. in view of U.S. Patent 6,295,380 to Takahashi; Claims 6, 8, and 9, as being obvious from Chung et al. in view of Takahashi; and Claim 12, as being obvious from Chung et al. in view of U.S. Patent 6,466,624 to Fogg.

The present invention is intended to provide improvements to data decoding processing of, for example, image and audio signals in a digital TV receiver or a digital storage medium reproduction apparatus. One particular aim of the present invention is to provide higher-quality images in accordance with subscription viewing or interactive programs.

Claim 1 is directed to a decoding apparatus which inputs a bitstream obtained by coding a plurality of object data in units of objects and multiplexing the coded data. The plurality of object data are data which provide a desired scalability in accordance with a combination among the plurality of object data. Coded data of each object are separated from the bitstream, and data indicating a grade of the desired scalability is input. The coded data of the object is decoded in accordance with the data

indicating the grade of the desired scalability, and the decoded data is output. The output object data is synthesized.

Among the important features of Claim 1 are that a decoding apparatus inputs a bitstream obtained by coding a plurality of object data which provide a desired scalability in accordance with a combination among the plurality of object data, also inputs data indicating a grade of the desired scalability, and decodes the coded data of the object in accordance with the data indicating the grade of the desired scalability to synthesize the decoded object data. By virtue of these features, object data of the different grades of the desired scalability can be obtained.

Chung et al., as understood by Applicant, relates to predictively coding shape information of a video signal. Chung et al. refers to VOP, or video object plane. At column 2, lines 17-24, Chung et al. discusses that a given video is divided into a background image and an object image, and a rectangle including the divided background image and object image is defined as a video object plane (VOP). In Fig. 1, an encoder 10 comprises a VOP formation unit 11, VOP coders 12A, 12B, ..., 12N and a multiplexer 13. The VOP formation unit 11 is adapted to input an image sequence to be transmitted or stored, divide the inputted image sequence into object images, and form VOPs corresponding respectively to the divided object images. The VOPs formed by the VOP formation unit 11 are respectively coded by the VOP coders 12A, 12B, ..., 12N, multiplexed by the multiplexer 13, and transmitted as a bit stream. In Fig. 3, cited in the Office Action, a decoder 20 comprises a demultiplexer 21, VOP decoders 22A, 22B, ..., 22N and a synthesizer 23. The VOP information coded and transmitted as the bit stream by the encoder 10 in Fig. 1 is divided into VOP coded signals by the demultiplexer 21.

The VOP coded signals from the demultiplexer 21 are decoded respectively by the VOP decoders 22A, 22B, ..., 22N and synthesized into the original images by the synthesizer 23.

Therefore, Chung et al. discusses in connection with Fig. 3 a decoding apparatus which separates coded data of respective VOPs from an input bitstream and decodes each of the separated VOP coded data to synthesize the decoded VOP data. However, the VOP data are background data and object data (see, e.g., column 2, lines 17-24). Nothing has been found in Chung et al. that would teach or suggest that the object data are data which provide a desired scalability in accordance with a combination of the object data, as recited in Claim 1.

Moreover, Chung et al. fails to teach or suggest to input data indicating a grade of the desired scalability, and therefore does not teach or suggest the outputting unit functioning together with the desired scalability input unit. That is, nothing in Chung et al. teaches or suggests an outputting unit, arranged to decode the coded data of the object in accordance with the data indicating the grade of the desired scalability, and outputting the decoded data, as recited in Claim 1.

For at least these reasons, Claim 1 is believed to be clearly allowable over Chung et al.

Independent Claims 13 and 14 are method and computer-readable storage medium claims respectively corresponding to apparatus Claim 1, and are believed to be patentable for at least the same reasons as discussed above in connection with Claim 1.

A review of the other art of record has failed to reveal anything which, in Applicant's opinion, would remedy the deficiencies of the art discussed above, as

references against the independent claims herein. Those claims are therefore believed patentable over the art of record.

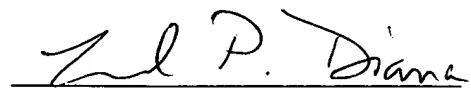
The other claims in this application are each dependent from Claim 1 discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

This Amendment After Final Action is believed clearly to place this application in condition for allowance, and its entry is therefore believed proper under 37 C.F.R. § 1.116. Accordingly, entry of this Amendment After Final Action, as an earnest effort to advance prosecution and reduce the number of issues, is respectfully requested. Should the Examiner believe that issues remain outstanding, he is respectfully requested to contact Applicant's undersigned attorney in an effort to resolve such issues and advance the case to issue.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Applicant's undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

  
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